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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/633,054 | 07/31/2003 | Michael D. Camras | LUM-M-12775 US | 6333 |
| 32566 | 7590 | 12/06/2004 | EXAMINER | |
| TRAN, MINH LOAN | | | | |
| ART UNIT | | | PAPER NUMBER | |
| | | | 2826 | |

DATE MAILED: 12/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) |
|------------------------------|------------------------|---------------------|
| | 10/633,054 | CAMRAS ET AL. |
| Examiner | Art Unit | |
| Minh-Loan T. Tran | 2826 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 23 September 2004.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-57 is/are pending in the application.
4a) Of the above claim(s) 1-21 and 35-57 is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 22-34 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 31 July 2003 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/31/2003

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ .

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Embodiment 3, claims 22-34 in the reply filed on 09/23/2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Information Disclosure Statement

2. The information disclosure statement filed 07/31/2003 has been considered.

Oath/Declaration

3. The oath or declarations filed on 1/26/2004, 12/10/2003 and 07/31/2003 are accepted.

Drawings

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, a portion of light emitted by the active region in a direction **substantially perpendicular to a central axis of the semiconductor light emitting device and the optical element** as recited in claim 22 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

5. Claims 22, 23, 25 are objected to because of the following informalities:

In claim 22, line 2, "**first** semiconductor light emitting device" should be changed to -- semiconductor light emitting device--, since there is only one semiconductor light emitting device.

In claim 23, lines 3 and 4, "**first** semiconductor light emitting device" should be changed to -- semiconductor light emitting device--, since there is only one semiconductor light emitting device.

In claim 25, lines 2 and 3, "**first** semiconductor light emitting device" should be changed to -- semiconductor light emitting device--, since there is only one semiconductor light emitting device.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 22, 25-29, 30, 31 are rejected under 35 U.S.C. 102(a) as being anticipated by West et al. (6,598,998).

With regard to claims 22, 29 figures 4, 6, 7A, 9A of West et al. disclose a device comprising a semiconductor light emitting device 40 comprising a stack of semiconductor layers including p-n junction active region; an optical element 44 bonded to the semiconductor light emitting device 40; wherein the optical element 44 is shaped to direct a portion of light emitted by the p-n junction active region in a direction substantially perpendicular to a central axis 66 of the semiconductor light emitting device 40 and the optical element 44. The cross section of the optical element 44 is thinner in a central region than in a peripheral region (figure 6, 7A, 9A).

With regard to claim 30 and 31, figures 5E-5G of West et al. disclose a surface I of the optical element 44 comprises a reflector.

With regard to claims 25-28, figure 1B of West et al. discloses a device comprising a semiconductor light emitting device 30 comprising a stack of semiconductor layers 38 including active region; an optical element 32 bonded to the semiconductor light emitting device 30; wherein the optical element 32 is shaped to

direct a portion P1 of light emitted by the active region in a direction substantially perpendicular to a central axis 26 of the semiconductor light emitting device 30 and the optical element 32. The cross section of the optical element 32 is thinner in a central region than in a peripheral region.

Claims 22, 25-27, 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamana et al. (5,418,384).

With regard to claim 22, figures 7, 9, 11, 22, of Yamana et al. disclose a device comprising a semiconductor light emitting device 26 comprising a stack of semiconductor layers including p-n junction active region; an optical element 25 (or 12) bonded to the semiconductor light emitting device 26; wherein the optical element 25 (12) is shaped to direct a portion of light emitted by the p-n junction active region in a direction substantially perpendicular to a central axis of the semiconductor light emitting device 26 and the optical element 25 (12). A surface 22 of the optical element 25 comprises a reflector (figure 11, 22).

With regard to claims 25-27, figures 7, 9, 11, 22 of Yamana et al. disclose the optical element 25 (12) comprising a wedge having a first surface adjacent to the bond connecting the optical element 25 (12) to the semiconductor light emitting device 26; a substantially flat second surface perpendicular to the first surface and curved third surface that connects the first and second surfaces, wherein the third surface comprises a mirror (figures 9, 11).

With regard to claim 33, figures 7, 9, 11, 22 of Yamana et al. disclose the optical element 25 (12) is elongated.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23, 24, 32, 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamana et al. (5,418,384).

With regard to claims 23, 24 and 34, figures 7, 9, 11, 22 of Yamana et al. disclose all the subject matter claimed except for the third surface is substantially flat and the optical element comprises a rectangular slab. Although Yamana et al. does not teach exact the shape of the third surface and the shape of the optical element as that claimed by the applicants, the shape differences are considered obvious design choices and are not patentable unless unobvious or unexpected results are obtained from these changes. It appears that these changes produce no functional differences and therefore would have been obvious. Note *In re Leshin*, 125 USPQ 416, *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Circ. 1990).

With regard to claim 32, Yamana et al. does not disclose the bonding at an interface between the optical element and the semiconductor light emitting device is substantially free of organic-based adhesive. However, it would have been obvious to one of ordinary skill in the art to form the bonding at an interface between the optical

element and the semiconductor light emitting device is substantially free of organic-based adhesive because such material (e.g. glass) is conventional in the art for bonding the light emitting device to the optical element. Note paragraph [0058] of Mueller et al. (US 2003/0227249) is cited to support for the well-known position.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh-Loan T. Tran whose telephone number is (571) 272-1922. The examiner can normally be reached on Monday-Friday 9:00 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Minh-Loan Tran
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MIT
11/04